

THE SEVENTEENTH
ANNUAL REPORT
ON THE
SANITARY CONDITION
OF THE
BOROUGH & PORT OF IPSWICH.
FOR THE YEAR 1894.

BY
GEORGE SAMPSON ELLISTON,
MEDICAL OFFICER OF HEALTH.

IPSWICH:
S. & W. J. KING, PRINTERS, PRINCES STREET.
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MEDICAL OFFICER'S REPORT.

TO THE MAYOR, ALDERMEN, AND COUNCILLORS
OF THE BOROUGH OF IPSWICH.

GENTLEMEN,

I have the honour to submit to you the following as my Report on the Sanitary Condition of the Borough and Port of Ipswich during the year 1894.

STATISTICAL RETURNS, HOUSES, AND POPULATION.

FROM a statistical point the year 1894 was a remarkably interesting one in Ipswich. The year opened with an immense amount of sickness; the long epidemic of Scarlet Fever was at its height, Whooping Cough not only caused a large number of deaths, but undermined the health of hundreds of children who recovered, and Influenza was the cause of the high mortality from pulmonary affections. No wonder then that the death-rate during the first quarter of the year was the highest on record—in fact, as many deaths were registered during the first three months of the year as in the following six. After the week ending March 31st the death-rate in the town suddenly dropped, and continued at such a remarkably low average during the remaining nine months of the year, that the death-rate for the whole of 1894 is the lowest on record. This high standard of health appears to have been enjoyed by the whole country, for according to the Registrar General's Report which is just published, he states:—"The birth-rate in England and Wales in 1894 was 29·6 per 1,000 of the population, the lowest rate ever recorded. The death-rate, 16·6, was even more remarkable, being not only the lowest ever recorded,

but so much as 1·5 per 1,000 under the lowest previous rate, viz., 18·1 in 1888.” As in the whole country, the birth-rate in Ipswich during 1894 was the lowest recorded. It may generally be noticed that a low birth-rate in a district is invariably accompanied by a corresponding decrease in the rate of mortality.

The population of Ipswich is estimated to have increased by 706 persons during the year, which closely corresponds to the natural increase, that is, the excess of births over deaths, which during 1894 amounted to 695. The estimated population in Ipswich, therefore, in the middle of the year 1894 amounts to 59,316, and it is on this estimate that the vital statistics in this report will be calculated. According to the register kept by the Surveyor 288 new houses were built during the year, this is a satisfactory increase on the two preceding years, when 271 and 226 new dwelling houses were added to the town.

MARRIAGES.

The number of marriages registered in Ipswich during the year 1894 amounted to 496, against 508 in 1893. Although 12 less than in the previous year, the 496 marriages are 76 above the average of the preceding ten years; 292 of them took place in churches, and 204 in chapels, Roman Catholic churches, and at the Registrar's Office.

BIRTHS.

The number of births registered during the year 1894 amounted to 1,705, against 1,713 in the previous year. Of the 1,705 births 815 were registered in the Western Sub-district and 890 in the Eastern. The births are 8 less than in the previous year, and 18 below the average of the ten years from 1884 to 1893.

The birth-rate in Ipswich for the year 1894 was equal to 28·7 per 1,000 of the population living, that for England and Wales during the same period amounting to 29·6 per 1,000, both of which are the lowest rates on record.

MORTALITY.

During the year 1894 the total number of deaths registered in Ipswich from all causes amounted to 1,010 against 1,322 in the previous year. The deaths are 312 less than in 1893, and 82 below the average of the preceding ten years 1884-93. On

the estimated population of 59,316, the 1,010 deaths give an annual rate of mortality of 17·0 per 1,000 living; the rate for England and Wales during the same period being 16·6 per 1,000.

If the deaths of 29 strangers dying in Public Institutions be deducted, the death-rate is reduced to 16·5 per 1,000, and this may fairly be done, as a large number of patients are sent to the County Hospital and Borough Asylum from other towns and districts, with their fatal illnesses upon them, and these corrections and deductions from the general death-rate are now made in all urban districts.

Of the 1,010 deaths, 509 were males and 501 females, 471 were registered in the Western Sub-district and 539 in the Eastern, the town for registration purposes being now divided into two sub-districts.

The deaths of 131 persons were registered as taking place in Public Institutions during the year, viz.:—46 in the East Suffolk Hospital, 20 in the Borough Asylum, 57 in the Union Workhouse, 5 in the Borough Fever Hospital, and 3 in Her Majesty's Prison. Of the 131 deaths, 29 were strangers who belonged to other districts, and came to Ipswich with their fatal illnesses upon them, 23 of them died under treatment in the East Suffolk Hospital, and 6 in the Borough Asylum, and as already stated should be deducted from the general death-rate.

ZYMOTIC DISEASES.

The number of deaths under this class amounted to 92 during the year 1894, against 180 in the previous year. The annual death-rate from these seven principal Zymotic Diseases was equal to 1·55 per 1,000, the rate in England and Wales for the same period being 1·76 per 1,000.

SMALL-POX.

No fresh case of this disease was reported during the year, but a patient who had been admitted into the Fever Hospital the previous month suffering from Small-pox was discharged cured towards the end of January. The Borough was fortunate in escaping the importation of the disease through tramps, one who was on his way to Ipswich in May was intercepted with

Small-pox at Tattingstone Workhouse. The case was a virulent and fatal one, and was the cause of a widespread outbreak of the disease in the Workhouse and two adjoining parishes.

WHOOPING COUGH AND MEASLES.

No death was returned from Measles during the year, a circumstance that has not occurred in Ipswich for upwards of twenty years.

The 43 deaths from Whooping Cough principally occurred during the first four months of the year, when this troublesome infantile disease was present in an epidemic form. It was noticed that the poorer and more crowded parts of the town had the highest proportionate mortality, which was doubtless due to the want of care on the part of parents in seriously treating the disease, and keeping infected children from school.

SCARLET FEVER.

Eighteen deaths were returned from this disease during 1894 against 8 in the previous year. The epidemic of Scarlatina which was specially reported upon in 1893, continued with unabated vigour all through the greater part of the year 1894. During the first quarter of the year the disease assumed a more severe type and ten fatal cases occurred, but early in the summer the disease became milder, and towards the end of November the epidemic began to die out. Under the Act for the Compulsory Notification of Infectious Diseases, 673 cases of Scarlet Fever were notified during the year; of these 245 were removed to the Borough Fever Hospital; so that 36 per cent. of the total number of cases were isolated in Hospital. In the previous year only 21 per cent. were isolated, the increased number during the past year was owing to the greater part of the Hospital being given over to Scarlet Fever and the addition of a temporary iron ward.

DIPHThERIA.

Sixteen deaths from Diphtheria were returned during 1894, against 6 in the previous year. The number of cases notified amounted to 39, which is only ten more than in the previous year. There was nothing to account for this heavy mortality, beyond the severe type of the disease in individual cases. The various outbreaks were investigated at the time, and did not appear to be in any way connected with each other, the

majority of the cases being sporadic ones. In December the Health Committee authorised the purchase of some "Antitoxin," and a case was successfully treated with it; two other cases in the same house that did not at first appear to be so severe, and were not treated with it, subsequently died. Owing to the want of room at the Fever Hospital, no cases of Diphtheria were removed to it during the year.

ENTERIC FEVER (TYPHOID).

Only 4 deaths were returned from Typhoid Fever during 1894, against 19 in the previous year. The number of fresh cases notified under the Act amounted to 41; in the previous year there were as many as 134. Of the 41 cases notified 10 were removed to the Fever Hospital, one of which proved fatal. The decline in Typhoid Fever during 1894 was general throughout the country, and was mainly due to the low mean temperature that prevailed all through the Summer and Autumn, accompanied as it was by frequent and abundant rain. Apart from climatic influences, it must not be forgotten that the prevalence of this fever during 1893 was the cause of several localities being improved by the Health Committee, and a more energetic removal of refuse, as well as systematic emptying of dust-bins in 1894.

DIARRHŒA.

Eleven deaths were registered from Diarrhœa during the year 1894, which is a great contrast to the previous year, when 92 deaths were returned from this Summer disease. Like Typhoid Fever, Diarrhœa is well known to be dependent in some way on variations of temperature, accompanied by drought, more particularly in those localities where prolonged heat operates on accumulations of filth.

CONSTITUTIONAL DISEASES.

CANCER.

Forty-one deaths were registered from this disease during 1894, against 46 and 38 in the two previous years.

TUBERCULAR DISEASES.

The principal disease under this order is Phthisis, or Pulmonary Consumption, which year by year sweeps off the young people in Ipswich with fatal regularity. During 1894 106 deaths were returned from this incurable disease, against 124 in the previous year. This is a slight reduction on the average of the last ten years, and leaves ample room for further reduction. Consumption is intimately connected with confined, ill-ventilated, and overcrowded dwellings, and the practice of crowding together a number of young people in workrooms is a fruitful source of the disease. The Inspectors under the Factory and Workshop Acts have lately gone into this subject in Ipswich, and under the provisions of the new Act are working with the Health Department to reduce the overcrowding that undoubtedly exists in many workrooms.

LOCAL DISEASES.

RESPIRATORY ORGANS.

During the year 1894 there was a decline in the number of deaths from the various diseases of the lungs, 178 being returned against 237 in the previous year. Of the 178 deaths 131 were due to Bronchitis, 39 to Pneumonia, and 8 to other diseases of the Lungs. In addition to these, 11 deaths were returned as directly due to Influenza.

OTHER DISEASES.

During the year 84 deaths were returned from Old Age, 69 from Heart Disease, 67 from Wasting Diseases of Infants, and 60 from Convulsive Diseases of Infants, including Teething and Convulsions.

DEATHS FROM VIOLENCE.

Twenty-four persons met with Violent Deaths during the year; 7 of them were due to Accidental Injuries, 5 to Accidental Burns, 1 to Accidental Drowning, 2 were Found Drowned, and 4 to Suffocation. Five persons committed Suicide, viz., 2 by Hanging, 2 by Cutting the Throat, and 1 by throwing himself from a height.

INFANTILE MORTALITY.

The most favourable feature in this year's statistics is the marked decline in the mortality of young children. The number of deaths of children under five years of age during the year 1894 amounted to 329 against 434 in the previous year. Of the 329 deaths 207 were returned under one year of age, and 122 between one year and under five. The rate of infant mortality measured by the proportion of deaths under one year of age to registered births was equal to 121 per 1,000, that for England and Wales during the same period being 137 per 1,000, by which it will be seen that the proportion of infant mortality to registered births in Ipswich during the year 1894 was considerably below the rest of the country.

AGED PERSONS.

The deaths of 309 persons over 60 years of age were returned during 1894, against 394 in 1893. Of these 133 were between 70 and 80, 60 between 80 and 90, and 6 upwards of 90 years.

THE SANITARY CONDITION OF THE BOROUGH.

The high death-rate of 1893 accompanied as it was by an excessive amount of infectious sickness, occupied the careful consideration of the Health Committee in the early part of 1894. It was proposed to carry out a house to house inspection in every part of the town, but as this would have necessitated a large addition to the staff of Inspectors, and much valuable time would have been wasted by visiting and inspecting streets in a fair sanitary state, it was decided to utilise the notifications under the Infectious Diseases Act. It has been found that in about 80 per cent. of the houses where infectious diseases are notified grave sanitary defects are found to exist, and that when a group of cases are reported in a locality, a special inspection of one or both sides of the street generally brings to light local defects in house drainage or refuse removal capable of improvement. Acting on this principle several localities where infectious diseases had been raging in the previous year, and were still prevalent, such as Albion Street, Wycks Bishop Street, Ernest Street, Arthur Street, Regent Street, Dorkin

Street, White Elm Street, and Wells Street, were specially inspected and reported upon to the Committee. In all these streets the backyards to the houses were found to be small and confined, and invariably contained badly-trapped house drains and foul, deep midden pits, giving rise to nuisances, dangerous to health. The sum and substance of these reports was to condemn the privy midden altogether in close neighbourhoods; and where the back yards were small and closely built in the midden privies should be abolished and water closets substituted for them.

This is practically what I advocated in my Annual Report for 1891, in which I entered very fully into the merits and disadvantages of the midden or so-called conservancy system, and the water-carriage system. In that report the following paragraph appeared:—"The midden system in large urban districts is now being universally condemned, and Health Officers are advocating the advantages of the water-carriage system in all towns provided with good impervious sewers, as they are of opinion that the air in towns cannot possibly be kept pure where the so-called conservancy system is in use." A further experience of three years has more than confirmed that opinion, and the latest inquiries on the subject tend to show that the midden privies in populous districts have had their day, and that their place must be taken by some form of water closet. The ordinary wash-down water closet, such as is now in use in Ipswich, appears to be the best from a sanitary point of view, especially for the interior of houses, but whether a cheaper form of closet or one of the waste water closets should be sanctioned for out-door use in poorer neighbourhoods, is a question of detail that may safely be left to the owner or Building Committee. One of the advantages of this latter class of closet is that it is not so liable to be affected by frost; but the damage to the ordinary water closet, and the inconvenience resulting from the action of frost, has been over exaggerated. Some cottage property owners have lately raised this plea to get off converting foul midden privies into water closets, but the excuse is entirely opposed to the opinion of modern sanitary experts. Much inconvenience has, no doubt, been caused by the unusually severe weather we are now passing through, but I will venture to say that even greater inconvenience and danger to health has been caused by the recent freezing of the gas and water mains.

In considering the various subjects contained in my fortnightly reports, the Health Committee formed Sub-Committees

to deal with them, and before issuing orders for converting a large number of middens into water closets they visited the locality and judged for themselves. The improvement in the closet accommodation was invariably accompanied by the re-construction and re-laying of the house drains, and trapping them with one of the approved gully traps. Other localities in the town were dealt with in a similar manner, such as Beck Street, parts of Woodbridge Road, Parliament Road, and Waveney Road, and Station Street. Hawes Street, and Croft Street in the district of Stoke.

The prevalence of Typhoid Fever during the Autumn of 1893 drew attention to the large accumulations of filth stored up in the middens all over the town, but more particularly in the localities that have just been enumerated. A special report on the subject was presented to the Health Committee in the Spring, with the result that a Sub-Committee was appointed, who lost no time in dealing with this important subject, and early in May they added to the Refuse Removal Department an extra gang of four men, three horses, and two new waggons. There can be little doubt that this addition to the permanent staff has not only had a beneficial effect on the public health, but was the means of checking those endless complaints of overflowing soil bins, that so frequently cropped up during the hot dry period of the previous Summer. In his report, Mr. Moss states that this extra gang enabled him to deal with the collection in such a manner that "at no time during the Summer more than three nights work were on his books," and "that 4,079 waggon loads of night soil were collected and removed outside the town." Comparing these figures with those in his report for five years ago, it will be seen that great progress has been made. In the year 1889, 2,867 waggon loads were removed outside the town at a cost of £541 13s. 1d., whereas the total cost during the past year amounted to £1,880 10s. 4d.

The labours of another Sub-Committee were crowned with success on March 26th, 1894, when a systematic plan of collecting dry house refuse came into force. Now that the system has been successfully worked for nine months the wonder is how we can have gone on so long without it. The results, so far, have been very satisfactory from a health point of view, and the work has given general satisfaction to all classes of the inhabitants. Great credit is due to Mr. Moss for the way he organised the work, and the tact he displayed in smoothing over the difficulties at the commencement.

The supervision of new buildings has been more strictly looked after by the Health Committee during the past year, and the Building Sub-committee have insisted that the alterations and improvements in the house drainage should be carried out in accordance with the plans deposited. To facilitate this work they appointed a competent Inspector, well up in the details of modern house sanitation, whose duty it is to see that all house drains are properly laid, and the sanitary requirements of the bye-laws complied with. From June 1st to the end of the year he made 2,069 visits of inspection, including the laying of new drains, and personally inspected 170 connections to sewers.

There is every prospect that the new drainage works for the Marsh district will be completed during the ensuing year, and it is to be hoped that all the houses in the streets adjoining will be systematically connected with the new sewers under the supervision of the Building Inspector.

A special report was presented during the year on the bad sanitary condition of Portman Street where an unusual amount of infectious sickness had been notified. In the previous year Edgar Street and Priory Street had been reported upon for the same reason, and as the Princes Street sewer into which these streets all drain is not sufficiently deep for them, the proposed sanitary improvements must stand over until the completion of the Marsh District Sewerage. The back yards in these streets are small and contain defective house drains and foul midden privies, which will have to be reconstructed and converted into water closets, as soon as the new drainage works are completed. This will be a large order, but I hope the Sanitary Authority will support it, as it is just one of those closely built over areas, where middens should be abolished altogether.

While writing this Report an important decision of the Local Government Board on the subject of water closets *versus* midden privies has appeared in "Public Health," and as it seems to apply equally to Ipswich I can not do better than give an extract as it appeared in that journal.

"An important inquiry has recently been held in Sheffield by Mr. R. Walton, in connection with an appeal to the Local Government Board by the owners of certain property against a demand made by the Sheffield Corporation for the sum of £70 15s. 0d. recently expended by the Corporation on default of the owners to provide further closet accommodation when required to do so, under Section 36 Public Health, 1875. On

behalf of the appellants it was urged that the Public Health Act allowed that these were places where privies might properly exist, and this was one of those cases, as the property was in a lofty and exposed situation, and the essential conditions were present which made privies proper accommodation. It was also alleged that the adjacent rubble sewer was quite unsuitable for the reception of drainage, and that the charge for the water closets was excessive. The Medical Officer of Health for Bradford expressed the view that water closets were not necessary in all cases, and that additional privies would have met every requirement in this case. Several architects and surveyors were of opinion that in the situation concerned privies were far preferable to water closets from a health point of view."

"For the Corporation, the Deputy Town Clerk stated that it was admitted that the existing six privies were insufficient for 120 persons, and asked that the memorial be dismissed on the ground that under the 1875 Act, the Corporation alone had power to say what work should be done, and that this was clearly a case for the exercise of judicial discretion on the part of the authority. The Corporation felt that the time must come when some other system than that of privy middens must be put in force. The difficulties were becoming enormous in the way of disposing of the refuse, and the authorities felt that the only solution of the difficulty was in converting the town, as far as possible, into a water closet town as opportunities occurred. This was in their minds when they spent large sums on their drainage scheme and extensive sewage works. At present they were dealing with congested districts chiefly, and this particular case only arose through the default of the owners, but the time might come when the Corporation would require all the privies in this district to be converted, and with that contingency before them it would not be reasonable or right to put down half-a-dozen privies, and in the end entail additional cost by their conversion."

"Dr. H. H. Littlejohn, the Medical Officer of Health for the City, stated that it would be unfair to ask the owners to provide privies when they were within measurable distance of the time when they would have to ask them to convert these into water closets. It was his opinion that the privy system should be abolished altogether. The nuisance from privies was not local only, as the removal of their contents constituted a general nuisance. He read a letter from the Local Government Board dated October 12th, 1893, in which the hope was expressed

that more progress would be made in the work of substituting water closets for midden privies."

"The Inspector afterwards visited the premises in question, and will report to the Local Government Board in due course. The Board's decision will be awaited with interest by medical officers of health of midden towns, many of whom will hesitate to endorse the views expressed in favour of privies, which act as hot-beds for disease germs, contaminate the air with their foul emanations, pollute the soil by leakage, and are responsible for the insufferable nuisance by which their emptying is attended."

"Since the above was written a letter has been received from the Local Government Board dated the 15th January, in which it is stated that the Board have had under their consideration the report made by Mr. Walton after the inquiry held by him with reference to the appeal, and that they propose to issue an order confirming the decision of the City Council in the matter. From this order there is no appeal."

THE DRAINAGE OF THE MARSH AND STOKE DISTRICTS.

The Sewerage Committee have also been busily engaged during the past two years in promoting various works which will doubtless improve the health of the town. The scheme for draining the Marsh District has been sanctioned by the Local Government Board, and the loan for carrying out the work granted. The construction of the overflow relief sewer is in progress, and the Marsh drainage is about to be commenced, and as the work is to be pressed on it will probably be finished during the ensuing year.

With a view to commencing the sewerage of the Stoke district on completion of the other, the Committee are actively preparing plans and estimates, so that we are now within measurable distance of this much needed sanitary improvement.

The question of the purification of the sewage of the town and of dealing with the solid matter at the outfall, has largely engaged the attention of the Sewerage Committee for a long time past. I understand that screening back of the larger solid matters at the outfall has been tried in one set of tanks for the last three months, and that it has been so far successful that the screens are to be extended to the other set of tanks.

THE HERMITE SYSTEM OF SANITATION OF TOWNS.

The Sewerage Committee having so recently presented an exhaustive report on this subject, and the Local Government Board after due inquiry having sanctioned a loan for the carrying out the process in Ipswich, leaves little for me to report.

The experiments carried out by the Committee in June under Messrs. Patterson and Cooper, Electrical Engineers, who are the co-patentees with M. Hermite in England were watched with great interest.

The Hermite fluid is obtained by passing an electric current obtained from a dynamo through sea water, whereby a portion of the magnesium chloride is converted into hypochlorite, a strong antiseptic and disinfectant substance. Fortunately the water in Ipswich Wet Dock is sufficiently salt to be electrolysed into this solution without going to the expense of adding chemicals.

From what I saw of many of the experiments made by the Public Analyst, Mr. Napier, I came to the conclusion that this electrolysed sea water was a very powerful disinfectant, and when the strong solution was used, that is, when the electric current had been passed through a sufficient number of times to bring it up to the strength of 1 gramme of active chlorine per litre, very remarkable results were obtained. On September 21st 950 gallons of the strong solution were run into the head of the main sewer, and at the various manholes more than half a mile distant a chlorous smell could be easily detected. At one point a sample of sewage was drawn out of the sewer; it was found to contain 5·5 per cent. of the solution, and six days after being kept in the laboratory it still retained a chlorous smell and showed no signs of decomposition, whereas a sample of sewage drawn out from the same manhole before the solution was added was perfectly putrid. Mr. Napier's experiments proved that the Hermite electrolysed solution was not only a strong disinfectant, but could be manufactured in bulk cheaper than any other, and that if sufficient of the solution were added to the sewers, the sewage would be rendered inoffensive in its passage through the town, and from its antiseptic properties it would be kept so for six or seven days.

At present it is only intended to flush the main intercepting sewer with the solution, but I hope that the plant will be sufficient to manufacture a reserve of the strong solution (1 gramme per litre), which can be taken in a water-cart, 250 gallons at a time, and put down at the various manholes at the top of the arterial system of sewers. When infectious disease has been prevalent in the town, we have been in the habit of flushing the sewers from their summits with a solution of corrosive sublimate on two successive days, apparently with good effect.

I trust we shall be able to do the same in larger quantities with the Hermitine solution, the action of which the *Lancet* Commission, in their experiments, favourably compared with either corrosive sublimate or carbolic acid. Great as their antiseptic properties are, the Commission considered that Hermitine was superior to either, especially where there was great dilution as in town sewage.

ANNUAL REPORT ON THE SANITARY CONDITION OF THE PORT OF IPSWICH.

The limits of the Port of Ipswich extend to so much of the river Orwell as lies between a straight line drawn between Shotley Point on the West side of the river and Fagborough Head on the East side, being the boundary limit in the river of the Port of Harwich, and a certain lock called Handford Lock in the Town of Ipswich; together with the waters of the Port of Ipswich within such limits, and every place for the time being appointed for the mooring or anchoring of ships under any regulations for the prevention of the spread of diseases, and the docks, basins, quays, wharves, rivers, creeks, and harbours within the limits.

SHIPPING TRADE.

The trade of the Port during 1894 shows a slight increase both in the number of vessels and tonnage, but there was a falling off in the foreign trade as compared with the previous year, the increase being confined to vessels arriving coastwise.

During the year 1894 there entered the Port 174 vessels coming foreign with a gross tonnage of 45,130, and 2,331 coastwise vessels with a gross tonnage of 162,181 tons.

Of the 174 vessels arriving from foreign ports, 48 were steamers, of 21,444 tons, and 126 were sailing vessels, of 23,686 tons.

The following list, tabulated by the Harbour Master, Captain J. Wing, will show the countries from which they came, and the cargoes they brought:—

No. of Steam Vessels.	Cargoes.	Where from.	No. of Sailing Vessels.	Cargoes.	Where from.
7	Barley	Black Sea and Denmark	6	Oats	Prussia and Holland
1	Maize	Black Sea	3	Wheat	Australia and S. America
1	Maize and Barley	Black Sea	5	Locust Beans	Portugal and Cyprus
8	Oats	Russia	21	Barley	S. America, Cyprus, and Denmark
2	Wheat	Black Sea and Belgium	9	Oilcake	Prussia, Germany, and Russia
2	Oilcake	Germany and Russia	5	Moss Litter	Holland
2	Cotton Seed	Egypt	5	General	Holland and Australia
7	Sulphur Ore	Spain	4	Cheese and Sugar	Holland
6	Phosphate of Lime	Belgium, France, and South America	1	Salt	Belgium
2	Deals	Sweden	1	Paraffin Oil	United States
3	Granite Stone	Guernsey	1	Light, &c.	France
1	Straw Boards	Holland	26	Phosphate of Lime	France, Belgium, & West Indies
			10	Granite Stone	Belgium, France, and Guernsey
			29	Deals	Norway, Sweden, Russia and America

Of the 2,331 vessels arriving coastwise, 501 were steamers, with a registered tonnage of 61,401, and 1,830 were sailing vessels, with a gross tonnage of 100,780, their cargoes consisted of Maize, wheat, barley, oats, peas, lentils, millet seed, locust beans, beans, linseed, cotton seed, sulphur ore, phosphate of lime, manure, coals, iron, moss litter, granite stone, deals, and timber.

INFECTIOUS DISEASE IN THE PORT.

No case of infectious disease occurred on board any of the ships during the year. One case of sickness was reported in the dock, which was treated at the General Hospital.

FLOATING HOSPITAL.

Fortunately the Hospital Ship "Bokanko" was not required during the year. She has, however, been held in readiness for occupation, especially during the summer months when cholera was reported at several ports trading with Ipswich. On August 25th a telegram was received that the "Max" had arrived off Harwich, bound from Cronstadt to Ipswich, having landed a case of cholera at Cronstadt. Four beds were immediately prepared on the "Bokanko" in case they should be required, but in the meantime the vessel was boarded at Harwich by the Deputy Medical Officer of Health for the Port, who found the crew well and free from infection. Mr. Gurney gave pratique, and on arrival in Ipswich Dock the crew were again medically examined.

Although the Hospital Ship was not wanted during 1894, she did good service by doing duty for one of the wings at the Borough Fever Hospital. Throughout the greater part of the year the epidemic of Scarlet Fever in the town caused great pressure to be put upon the Hospital accommodation; and the wing usually reserved for Cholera or Small-pox had to be given up for Scarlet Fever patients. Had either of these diseases broken out in the town or port during this period, there would have been no place to isolate them in except the Floating Hospital, which practically set free two wards of ten beds at a time of emergency.

SANITARY WORK.

The Customs Officers reported the arrival of 63 vessels from foreign ports during the year, about 40 of these from infected ports were inspected. The sanitary condition of the ships inspected was satisfactory, the steam vessels were larger, and the accommodation for the men in the fore-castle was more commodious and better arranged.

The water casks of some of the coasting vessels were complained of during the year as being insufficient and bad. One barge was served with a notice in the port of Rochester, and another was dealt with in the London Port Sanitary District.

The Inspector of Nuisances reports having boarded and inspected 10 vessels during the year, but had no occasion to serve notices for sanitary amendments.

**Number of Ships inspected from infected Ports between
February and December 31st, 1894.**

NO. OF SHIPS INSPECTED.	ARRIVED FROM.	NO. OF SHIPS INSPECTED.	ARRIVED FROM.
4	Huelva	1	Amsterdam
4	Harburg	3	Rotterdam
1	Groningen	5	Antwerp
1	Riga	4	St. Valery
2	Cronstadt	2	Ghent
7	Libau	5	Dunkirk
1	Alexandria	2	Brussels

BOROUGH FEVER HOSPITAL.

The prevalence of Scarlet Fever was the chief cause of the large number of patients that passed through this Institution during the year. No less than 285 cases were under treatment during 1894, being by far the largest number since the Hospital was opened in 1881. Out of this number only 5 died, giving the remarkably low mortality of 1·7 per cent. of the total number of patients treated in the wards.

It speaks well for the Hospital that the death-rate of 285 persons attacked with one of the acute fevers, should only be that of the general population of the whole Borough, and doubtless it is this low death-rate that has made the Fever Hospital the popular institution that it is.

The great demand for beds all through the year strained the resources of the Hospital to the utmost, and there were generally two applicants standing over for each bed as it became vacant. The pressure became so great at times, that the wards were almost overcrowded, and it became necessary to fill up the wing that is as a rule kept in reserve for Small-pox or Cholera. The temporary Iron Building did good service during the year, and received as many as 66 cases of Scarlet Fever for treatment between February and November. In December it had to be closed on account of the difficulty of keeping up an even temperature during the winter. This Iron Building is most useful as a temporary reserve ward, but the

great drawbacks to its being permanently used are the variations in temperature to which it is subject, the absence of any accommodation for the nurse, or for washing and bathing, and the want of a water-supply drainage and closet accommodation.

The low death-rate in the Hospital suggested the idea that a number of undeserving and mild cases were admitted, thereby excluding the more severe ones. This certainly was not the case, for when six or eight cases were standing over for the next vacancies, the rule was to select the worst cases in large families where the bedroom accommodation was deficient, or where the surroundings were such as to favour the spread of infection.

On January 1st, 1894, there were 30 patients under treatment in the Hospital, 255 fresh cases were admitted, 268 were discharged cured, 5 died, and 12 patients remained in the Hospital at the close of the year.

The following is a summary of the number of cases treated in the Hospital during 1894 with their results:—

Disease.	Number under treatment.	Discharged.		Remaining in Hospital Dec. 31st, 1894.
		Cured.	Died.	
Scarlet Fever	270	256	4	10
Typhoid Fever	14	11	1	2
Small-pox	1	1	0	0
Total	285	268	5	12

VACCINATION AND SMALL-POX.

Only middle-aged people can now remember the great epidemic of Small-pox which raged in Ipswich in 1872, when not only 142 persons died of the disease, but trade became almost paralysed. In the panic which ensued the adult population rushed to be re-vaccinated, for which the Corporation paid large sums in fees to all the medical practitioners in the town. After the epidemic the Vaccination Act was strictly carried out for several years, and in spite of the agitation of two or three active anti-vaccinists, Ipswich became one of the best vaccinated

districts in the country. I regret to have to record that during the last 20 years it has fallen to my lot to officially watch Ipswich grow from one of the best to one of the worst vaccinated districts in England.

During the last few years I have drawn the attention of the Sanitary Authority to this subject from time to time in my reports, but the town has been so free from epidemics, and the local outbreaks have been so successfully stamped out, that a feeling of false security appears to have been created. The situation seems to me to be so serious that I trust the Sanitary Authority will take more than a passing notice of this part of my report.

In my Annual Report for 1891 the following paragraph appeared at page 20:—"The Annual Report of the Medical Officer to the Local Government Board has just been issued, and contains the vaccination returns in England and Wales for the five years 1883—1888. According to these returns Ipswich occupies a bad position with regard to vaccination, for during these five years out of 100 births as many as 11·1 of the children were returned as unvaccinated. This percentage of children remaining unvaccinated is much higher than in any of the other Unions of Norfolk, Cambridgeshire, or Essex; and it is well known that owing to various circumstances vaccination has been even less strict in Ipswich during the last three years. These figures are rather alarming, as they show a very large number of the inhabitants to be quite unprotected by vaccination. There is no doubt that Ipswich is fast becoming ripe for an epidemic of small-pox, and that the lesson taught in 1872 is being rapidly forgotten. The penalty of this neglect of vaccination is that sooner or later an epidemic of small-pox will come, and when it does come the incidence of the disease is sure to be on those unprotected by vaccination."

The last Annual Report of the Medical Officer to the Local Government Board for 1893 contains the returns of the Vaccination Officers for 1890, from which it appears that Ipswich has made still greater default in regard of vaccination, for out of every 100 births that year as many as 25·5 of the children were returned as unvaccinated. High as this percentage is, there is little doubt that during the last four years it is still higher, and we may soon estimate that one-fourth of the population of Ipswich is unprotected by vaccination, the bulk of them being in the early years of life.

The anti-vaccinators and those who are apathetic about it think the Fever Hospital sufficient protection by isolating the

first few cases that may break out in the town. The Hospital will probably be able to deal with the first 12 or 18 cases, but if the disease continued to spread after that, the accommodation would be insufficient, and there would be nothing to fall back upon but vaccination and re-vaccination.

It seems strange that this apathy as to vaccination should have fallen on the people of Ipswich to the extent it has, and that the town is less protected now than it was before the passing of the Vaccination Act. It is just 100 years ago since the immortal Jenner made his great discovery. At that time Small-pox was the most fatal and most dreaded disease at home and abroad, and the great historian Macaulay speaks of it as more terrible even than plague.

Are we at the close of the 19th century gradually drifting back to the state of affairs at the commencement? It is for the Royal Commission on Vaccination to speak out on this point. The Royal Commission was appointed in May, 1889, and for nearly six years has been taking evidence and deliberating on the subject. The delay in issuing a report has practically brought vaccination to a standstill, and people naturally begin to think that the report will be against it. *The British Medical Journal* recently commenting upon it says:—"The delay in the publication of the report of the Commission has already done a great deal of harm, because Boards of Guardians have in many instances used the delay as an excuse for not doing their plain duty, as if the law on the subject were dubious."

SUMMARY.

The notification of Infectious Diseases has already been spoken of as playing an important part in the sanitation of the town.

During the year 1894 the number of cases of Infectious disease notified by the medical practitioners of the town amounted to 812 against 952 and 191 in the two previous years.

The diseases reported and enquired into were as follows:—

Scarlet Fever ...	673	Erysipelas ...	49
Diphtheria ...	39	Puerperal Fever	5
Membranous Croup	4	Other forms of Fever	1
Typhoid Fever ...	41		

In the appendix to this report will be found the Annual Report of Mr. George Moss, the Sanitary Inspector and Superintendent of the Refuse Removal Department. It

contains a list of the amount of practical work carried on in the borough during the year as well as the report of the Refuse Removal Department. Fifteen samples of water, ten of butter, and one of bread were taken and analysed by the Public Analyst during the year, but not one of milk. It would be well if this important article of diet were analysed more frequently during the ensuing year, in order to detect any tendency towards adulteration.

Although no houses have been closed during the year under the Housing of the Working Classes Act, 1890, the Health Committee have been actively engaged in maturing plans for the opening out of a congested area. The arrangements are nearly complete, but for obvious reasons it is better not to name the locality.

There are other matters that I should have liked to dwell further upon, but owing to a resolution of the Health Committee that this report should be printed and circulated by a certain date I have been somewhat rushed in its preparation.

The large and important works that are about to be commenced in Ipswich are a proof of the close attention that the various committees of the Corporation have given to the sanitary condition of the town during the last two years. Such works as the drainage of the Marsh and Stoke Districts, the screening of solid matters at the outfall, together with the Hermite system of purifying sewage must have an important influence in improving the health of the borough.

I have the honour to be, Gentlemen,

Your obedient Servant,

GEORGE SAMPSON ELLISTON.

ANNUAL REPORT OF THE SANITARY INSPECTOR AND MANAGER OF THE REFUSE REMOVAL DEPARTMENT FOR THE YEAR 1894.

Number of complaints received during the year	..	..	375
Number of houses and premises inspected	..	..	4,322

RESULTS OF INSPECTION.

Orders issued for sanitary amendments of houses and premises			405
Houses cleansed, repaired, and limewashed	..	..	28
Houses disinfected after Infectious disease	..	..	133
Public Schools in the Borough..	..	..	6

DISINFECTING CHAMBER.

The number of articles disinfected during the year in the Chamber ..	..	..	..	..	..	2,748
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INFECTIOUS HOSPITAL.

During the year 255 patients have been removed to the Infectious Hospital, viz.:—245 Scarlet Fever, and 10 Typhoid Fever	..	..	..	..	..	255
All the above houses where the patients were taken from were well supplied with disinfectants, fumigated, &c.						

MORTUARY.

Twenty-two bodies were taken to the Mortuary during the year	..	..	..	..	..	22
The interior of the building has been kept clean.						

HOUSE DRAINS.

Re-constructed, repaired, cleansed, and trapped	..	..	624
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PRIVIES AND ASHPITS.

Old privies pulled down	..	..	..	..	29
New privies built	..	..	..	..	7
Old privies converted into W.C.'s	..	..	..	..	223
Ditto ditto in progress	..	..	..	..	62
Privies and soil bins repaired, roofed over, and made watertight	..	..	..	..	424

WATER SUPPLY.

Number of samples taken and analysed	15
Polluted wells closed	4
Houses required per notice to lay on town water	13

MILK AND FOOD SUPPLY.

Number of samples taken under the Food and Drug Acts:—							
Milk	..	..	..	..	..	..	<i>Nil</i>
Bread	..	..	..	..	..	..	1
Butter	..	..	..	..	..	..	10
Number of additional milk-sellers registered during the year							20

BAKE HOUSES.

There are now 106 bake houses in the Borough, five of which are at the present time unoccupied, ten from various causes have ceased to exist since the last correction of the register							106
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MISCELLANEOUS.

A notice was lately served on the agent of fifteen houses, situate in John Street, to carry out certain sanitary amendments, but before the time named in my notice had expired, the agent appears to have given notice to the occupiers to vacate them, as the owners of the property would require the ground for further improvements and additions to their premises, etc.

Wash-houses repaired	7
Overcrowding reduced	11
Removal of animals improperly kept	72
Removal of accumulation of manure, stagnant water, and other refuse	9
Legal proceedings	<i>Nil</i>

FACTORY AND WORKSHOP ACT.

A register is kept in my office of the employers, contractors, and outworkers in the Borough, there are now 89 of the former and 1,100 of the latter, but as I observed in my first report (last year) this class of people is so fluctuating and migrative, that it makes the Order very difficult to carry out, the visiting of these premises has been the means of improving the sanitary condition of them.		89
		1,100

SLAUGHTER-HOUSES.

There are now 31 slaughter-houses on the register, all have been frequently inspected, and are generally well kept, several sanitary amendments have been carried out in connection with some of them 31

PORT SANITARY AUTHORITY.

During the year 10 foreign vessels have been inspected by me; all were found fairly clean and the crews all well, therefore no use has been found for the Cholera Hospital Ship, which has been kept cleaned and aired by James Day, a trustworthy mariner, at wages of 5s. per week, thus it will be seen patients can be admitted on the shortest notice. 10

CONTAGIOUS DISEASES (ANIMALS) ACT, AND DAIRIES, COWSHEDS, AND MILK SHOPS ORDER.

The usual inspection of dairies, cowsheds, and milksellers' premises have been attended to during the year, which, with very few exceptions, were found to be clean and well kept.

PUBLIC URINALS.

Five in number have been daily cleaned throughout the year, the Custom House and Stoke Bridge urinals having been frequently limewashed and disinfected and kept as clean as possible under the circumstances 5

NIGHT SOIL DEPARTMENT.

On a Report by a Sub-Committee dated 22nd day of March, 1894, to the Public Health Committee, it was resolved that another gang of four men, three horses, and two new waggons be added to the night soil staff, which was properly started on the 16th day of May, 1894, making six gangs in all, the result being that at no time during the Summer more than three nights' work was on my books per application.

4,078 waggon loads of night soil were collected and removed outside the town, averaging $78\frac{1}{2}$ per week.

83 dead wells were emptied during the year, and the contents removed outside the town.

15,557 privy bins were emptied during the year, an average of 299 weekly, also 62 pail closets were emptied weekly.

5 refuse bins consisting of vegetable and animal matter were emptied during the year, and charged for.

I may add, that the disposing of such a large number of waggon loads weekly at anything like a fair price has been a most difficult matter, owing, in my opinion, to the depressed state of agriculture.

SUMMARY.

Night Soil Department, from January 1st, 1894, to December 31st, 1894, inclusive.

			£	s.	d.	£	s.	d.
Wages	..	..	1677	1	10			
Horse Keep	..	..	852	2	0			
Horse Hire	..	..	7	10	0			
5 new Horses	..	..	155	17	0			
2 new Waggons	..	..	87	0	0			
Repairs	..	..	222	17	6			
Half Rent, Rates, Gas, &c., of Office	..	..	16	0	0			
						3018	8	4

SALES AND EARNINGS.

By Sale of 4 old Horses	..	..	28	8	6			
„ 12 Waggons at 4s. 0d. per Waggon			2	8	0			
„ 49 „ 4s. 6d. „			11	0	6			
„ 2,717 „ 5s. 0d. „			679	5	0			
„ 50 „ 5s. 3d. „			13	2	6			
„ 738 „ 5s. 6d. „			202	19	0			
„ 153 „ 6s. 0d. „			45	18	0			
„ 264 „ 6s. 6d. „			85	16	0			
„ 80 „ 7s. 0d. „			28	0	0			
„ 16 Waggons given in	..	..	—	—	—			
„ 83 Dead Wells	..	..	40	10	0			
„ 5 Dry Refuse Bins	..	..	0	10	6			
						1,137	18	0
						£1,880	10	4

DRY HOUSE REFUSE.

A Sub-Committee of the Public Health Committee was appointed on the 1st of December, 1892, to take into consideration the collection of house refuse from houses with water closets and no midden pits. Several meetings were held during the next year, and the Committee finally decided to start on the 26th of March, 1894, for that purpose I made all necessary arrangements. I divided the town into four districts, and put one horse and cart and a man and boy into each district for the first month, at the end of which I could see the work could be done with three sets of men by dividing the town into three districts, the men and horses got well into the work, and I found the boys could be dispensed with. I am pleased to say from thence the work has gone on quietly, regularly, and well. Every week fresh applications are received and

placed on the list. As to the providing of proper dust receptacles, much difficulty has been experienced with a large number of applicants, many letters of explanation have been written, and interviews have taken place both at my office and their residences, giving advice, etc. Many old bins have been done away with, and suitable-sized receptacles provided in their places, I have firmly (but I hope courteously) declined to empty such bins until a proper receptacle has been provided, then I clear the lot away, on condition the old bins are not used any more. I shall be able to do as I anticipated by finding a place for all the refuse for one year; as to the second, I hope to be able to dispose of it in another way. No doubt a Destructor must be kept in view, but I shall try to keep it out of my view as long as I can.

My estimate for the plant and the working expenses for the year was £710; with the modified alterations I have been able to introduce I think that £625 will about cover it, but the exact expenditure I shall not be able to give until the 25th March, 1895.

Number of calls made for clearing the receptacles from March 25th, 1894, to December 31st, 1894, were ..	44,650
Number of cart loads collected..	1,511
Or in Cube yards	3,022

In all probability the fourth cart will have to be started again sometime during the ensuing financial year, and then (in my opinion) some further alterations will have to be made which I will take care to lay before the Committee.

I am, Gentlemen,

Your obedient Servant,

GEO. MOSS.

*Inspector of Nuisances and Manager of
Refuse Removal Departments, &c.*

APPENDIX.

TABLE I.

Showing the Population, Inhabited Houses, Births, Deaths, and Marriages, for the year 1894 and Ten Years preceding.

GROSS NUMBERS.

Year.	Population Estimated at the Middle of the Year.*	No. of Inhabited Houses in District.	Births.	Deaths.	Marriages.
1894	59316	12237	1705	1010	496
1893	58610		1713	1322	508
1892	57904		1710	1193	428
1891	57081		1784	1087	423
Census Yr. 1890	57400		1705	1126	415
1889	56700		1686	1066	443
1888	56548		1705	1010	376
1887	55645		1688	964	362
1886	54757		1840	1044	386
1885	53883		1698	1037	451
1884	53023		1707	1078	410
Average of 10 Years. 1884—1893			1723	1092	420

NOTES.

1. *Population at Census, 1891, 57,081.*
2. *Area in Acres, 8,395.*
3. *Average Number of Persons in each House of Census, 4.6.*

* For statistical purposes the Registrar-General estimates the population to the middle of the year on the basis of the rate of increase ruling between the two preceding Census periods. The estimate of population may be checked by the known number of inhabited houses, and by the average number of inmates per house, as ascertained at the preceding Census.

TABLE II.

Showing the Annual Birth Rate, Rate of Mortality, Death Rates among Children, and Deaths in Public Institutions, for the Year 1894, and Ten Years preceding.

Year.	Birth-rate per 1,000 of the Population.	Annual Rate of Mortality per 1,000 Living.	Deaths of Children under 1 Year; per centage of Total Deaths.	Per centage of deaths of Children under 1 year to Registered Births.	Deaths of Children under 5 years; per centage of Total Deaths.	Total Number of Deaths in Public Institutions.
1894	28·7	17·0	20·4	12·1	32·5	131
1893	29·2	22·5	21·4	16·5	32·8	138
1892	29·5	20·6	22·2	15·5	31·2	136
1891	31·2	19·0	20·9	12·7	31·0	157
1890	29·7	19·6	19·2	12·7	33·1	121
1889	29·7	18·8	22·1	14·0	37·7	110
1888	30·1	17·8	23·5	13·9	35·4	130
1887	30·3	17·3	22·5	12·8	33·9	137
1886	33·6	19·0	26·8	15·2	38·5	130
1885	31·5	19·2	21·9	13·4	35·1	127
1884	32·1	20·3	23·4	14·8	34·5	119

TABLE III.

Showing the Number of Deaths from the Seven principal Zymotic Diseases in the year 1894, and in the Ten Years 1884 to 1893.

Disease.	1894	1893	1892	1891	1890	1889	1888	1887	1886	1885	1884
Small Pox	0	1	0	0	0	0	0	0	0	0	1
Measles	0	42	11	7	80	11	9	32	5	8	15
Scarlet Fever ..	18	8	3	5	1	0	0	1	0	4	8
Diphtheria	16	6	8	14	37	30	5	8	4	3	2
Whooping Cough ..	43	12	8	5	37	43	27	9	13	48	2
Fever	4	19	7	15	6	6	5	4	4	8	17
Diarrhœa	11	92	33	23	30	46	23	24	64	16	103
Total	92	180	70	69	191	136	69	78	90	87	148

